World Development Indicators (2022): Exploratory Analysis

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Table of contents

1 Introduction

This report examines a subset of the World Development Indicators (WDI) dataset for 2022. We focus on key indicators such as **GDP per capita**, **Inflation rate**, and **Exports as a share of GDP**, among others. Our goal is to explore potential relationships and highlight relevant insights.

```python
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt

# Pandas display options
pd.set_option('display.max_columns', None)
pd.set_option('display.max_rows', 10)
```

```
# Seaborn style
sns.set_theme(style="whitegrid")
```

```
df = pd.read_csv('wdi.csv')
df.head()
```

	country	inflation_rate	exports_gdp_share	gdp_growth_rate	gdp_per_capita	adult_lite
0	Afghanistan	NaN	18.380042	-6.240172	352.603733	NaN
1	Albania	6.725203	37.395422	4.856402	6810.114041	98.5
2	Algeria	9.265516	31.446856	3.600000	5023.252932	NaN
3	American Samoa	NaN	46.957520	1.735016	19673.390102	NaN
4	Andorra	NaN	NaN	9.563798	42350.697069	NaN

1.1 Exploratory Analysis

1.1.1 GDP per Capita

We look at the distribution of *GDP per capita* across countries in 2022.

```
gdp_stats = df['gdp_per_capita'].describe()
gdp_stats
```

```
count       203.000000
mean      20345.707649
std       31308.942225
min         259.025031
25%        2570.563284
50%        7587.588173
75%       25982.630050
max      240862.182448
Name: gdp_per_capita, dtype: float64
```

From the above, the mean GDP per capita is about **{{ gdp_stats['mean']|round(2) }}**.

1.1.2 Inflation Rate

Similarly, let's explore the inflation rate distribution.

```
inflation_stats = df['inflation_rate'].describe()
inflation_stats
```

```
count    169.000000
mean      12.493936
std       19.682433
min       -6.687321
25%        5.518129
50%        7.967574
75%       11.665567
max      171.205491
Name: inflation_rate, dtype: float64
```

1.1.3 Exports as a Share of GDP

Lastly, let's examine how export-dependent countries are, based on the share of GDP from exports.

```
exports_stats = df['exports_gdp_share'].describe()
exports_stats
```

```
count    169.000000
mean      46.170395
std       34.001404
min        1.571162
25%       24.526642
50%       40.221277
75%       55.460067
max      211.278206
Name: exports_gdp_share, dtype: float64
```

1.2 Visualisations

As shown in Figure 1, GDP per capita varies widely. Figure 2 shows there is **no obvious correlation** between GDP per capita and inflation rate, based on this scatter plot.
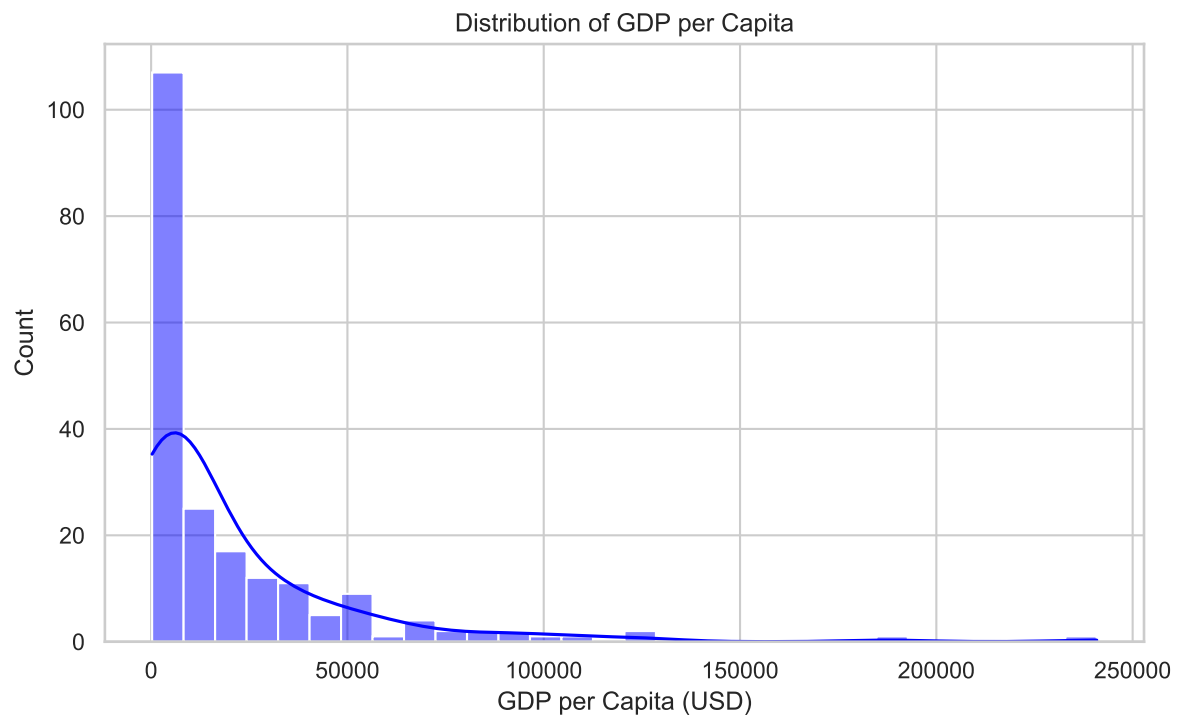
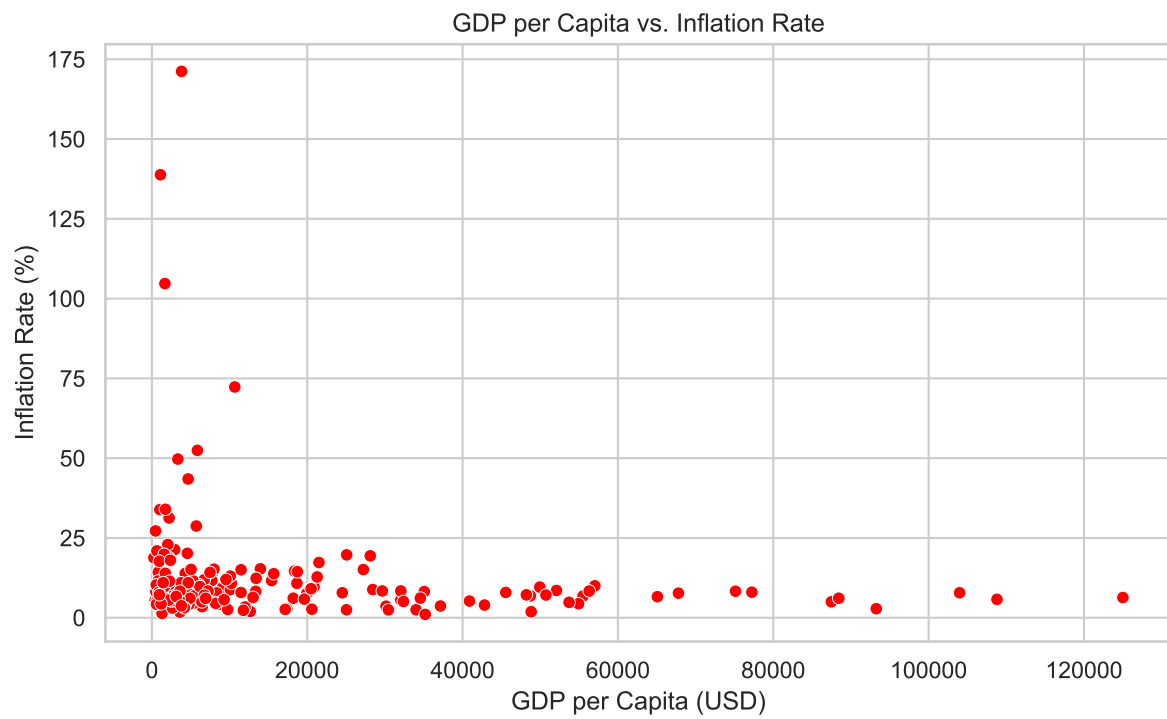Figure 1: GDP per capita distribution (2022). Source: (Bank 2025).

Figure 2: Relationship between GDP per Capita and Inflation Rate. Source: (Bank 2025).

1.3 Key Statistics Table

We provide a small table highlighting mean values of the chosen indicators.

Indicator	Mean	Std Dev
GDP per Capita	20345.71	31308.94
Inflation Rate	12.49	19.68
Exports % of GDP	46.17	34.0

See (Bank 2025) for details on global economic indicators.

Refer to Table 1 for average levels of each indicator and their spread.

(Smith and Gonzalez 2023) analyzes inflation's effect on long-term economic growth.
For healthcare and longevity, refer to (Johnson and Lee 2020).

References

Bank, World. 2025. *World Development Indicators*. The World Bank. https://databank. worldbank.org/source/world-development-indicators.

Chen, Lisa M., and David P. Thompson. 2024. "The Economic Impact of Climate Change on Agricultural Productivity." *Journal of Environmental Economics* 30 (1): 12–35. https://doi.org/10.1080/jeen.2024.0001.

Johnson, Emily, and Richard K. Lee. 2020. *Global Healthcare Spending and Longevity Trends*. Oxford, UK: Oxford University Press.

Programme, United Nations Development. 2019. "Educational Inequality and Economic Growth: A Global Perspective." UNDP Research Center. https://www.undp.org/education-inequality-growth.

Smith, John A., and Maria L. Gonzalez. 2023. "The Long-Term Impact of Inflation on Economic Growth." *Journal of Macroeconomic Trends* 48 (2): 56–78. https://doi.org/10.1016/j.jmacro.2023.04.002.

Williams, Sarah T., and Kevin J. Patel. 2021. "Food Security and Economic Stability in Developing Nations." *Development Economics Review* 15 (4): 321–45. https://doi.org/10.1016/j.deveco.2021.05.006.